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AUTHOR Talbot, Gilles L.
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ABSTRACT

The question of how teachers can mediate self-regulated learning in college students is discussed. For the purposes of this study, self-regulated learning is defined as the ongoing process in which the learner makes sense of the learning task, creates goals and strategies, and implements actions designed to meet goals for the given learning context. Learning oriented students see faulty performances as an indication that learning strategies need improvement, while performance oriented students see faulty performance as proof of their inadequacies. Convincing learning oriented students to improve their self-regulated learning is fairly easy. Performance oriented students may actually avoid such feedback from teachers. Increasing student motivation lies in eliciting responses about behaviors and helping students to think through the strategies involved. Challenging students to find within themselves the energy to improve by themselves not only assists them by teaching self-regulated learning, it offers them the tools to become educated, responsible adults. A practical guide, "Four Steps to Working Smarter, not Harder," is appended. (Contains 24 references.) (LH)

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Can **Self**-Regulated Learning Be **Taught** to College Students?

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Gilles L. Talbot
Champlain-St.Lawrence
Ste-Foy,Québec GlV 4K2

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Abstract

Metacognitive strategies is the important part in *self*-regulated learning. Students appear to need help with it and teachers lack insights into how to teach it. This essay shows how the processes for both are similar: What is self-regulated learning and who does the comprehension monitoring? How does one approach motivational issues? How do teachers talk to students about motivation? How do teachers develop better "class-side manners?"

The author argues that increasing student motivation resides in eliciting responses about behaviours and helping them to think through the strategies involved. Students and teachers both share the same questions about their behaviours. Learning to increase motivation requires the same processes of involvement and desire for change in students and teachers. How teachers can initiate and mediate these processes is the basis of this essay. A practical guide, "Four steps to working smarter and not harder," intended to be used with students is appended.

Can **Self**-Regulated Learning Be **Taught** to College Students?

Gilles L. Talbot
Champlain-St.Lawrence
Ste-Foy,P.Québec GlV 4K2

Introduction

Snow and Jackson (1992) recently catalogued the "Conative Constructs for Educational Research and Evaluation." Their taxonomy lists the many phrases used to describe the same underlying reality, and the diversity of research, which focuses on self-regulated learning. Apparently what people think and feel about themselves as learners is an important focus on learning/motivation research. We learn that intentions do not always translate into actions, even if the outcomes of these actions would be in the person's own best self-interest. The implication is that increasing motivation is not always possible by "fixing" or "adding" something. Yet well-meaning college teachers are constantly trying to help students help themselves. A recent article from a group interested in learning and study skills (LASSA news letter,1997) clearly reveals these topics to be the single most important topic they would like to see addressed in their professional journal.

The critical issue with motivation is change. Who initiates that change process determines self-regulated versus other-directed regulation. How can someone intervene to assist another in his/her self-regulated change?

The answer resides in understanding the processes involved in self-regulated learning. The ingredients of these processes are perceptions, experiences and feelings. Teachers and students' awareness of these processes in each other, and the means used to discover them in each other, are the process. In other words, a very strong phenomenological perspective derived from grounded research seems necessary to understand how to introduce, monitor and plan changes **with** someone rather than **for** someone.

What is self-regulated learning?

Ridley,McCombs and Taylor (1994) have recognized that "it is easier to talk about self-regulated learning than it is to foster it (p.53)." We have adopted their all inclusive definition that "self-regulated learning is ... the ongoing process in which the learner makes sense of the learning task, creates goals and strategies, and implements actions designed to meet his or her goals for the given learning context (p.53)." How does one

"teach" self-regulated learning? The answer is one does not "teach" but rather "mediates" student self-regulated learning. The problem college teachers have is with the means to mediate. How may college teachers elicit greater student awareness about the "consistency between one's intentions and actions (p.53)"? Besides explaining the process for eliciting behaviour one must also consider "reciprocal perspectives" (Laing, Phillipson and Lee, 1966) of teachers and students. Before we turn our attention to the processes of eliciting behaviour and understanding reciprocal perspectives, we need to examine the current status of comprehension monitoring.

Comprehension Monitoring

There is no doubt in this age of accountability that college teachers are very much engaged in comprehension monitoring. The most recent example is the entente between the Québec College Teachers' Union and the Provincial Government for teachers to devote an "extra" hour each week to help pass students who previously failed with a grade in the 50-59% range. As we can see, and as Weinstein and Rogers (1985) have accurately pointed out, college teachers seem to be doing most of the comprehension monitoring for the student.

The literature on learning orientation makes abundantly clear that "learning oriented" students work to improve themselves while "performance oriented" students work to prove themselves. This implies that learning strategies are viewed differently. Some students see faulty performances as an indication that learning strategies need to be improved, while other students see faulty performance as proof to themselves and/or others that they are untalented or "stupid." Those students who see themselves as lacking something are most likely to think that "things" can be "fixed" or "added" (improved) by initiating new learning behaviours. Learning oriented students monitor continuously the fit between task demands and their skills to meet these requirements. However, performance oriented students tend to feel bad about their inadequacies and want to avoid being reminded about them. So, teachers try to intervene to help them. Performance oriented students then are confronted with other-directed diagnosis. This self- versus other-directed diagnosis has important ramifications on "self"-regulation of performance oriented students.

Typically teachers remind students about due dates, what is expected, and how to avoid certain careless mistakes. It is the teacher, rather than the student, who engages in comprehension monitoring. Second, the teacher means well but the type and timing of feedback, and the choice of words (especially what not to do) will probably adversely affect the performance oriented students who are most likely to need the help. It is as though teachers' efforts to draw performance oriented students' attentions to their own

thinking only reminds these students, once again in their view, that they are "stupid." How can college teachers mediate student self-regulated learning for all students? If college teachers can't talk to students to point out their needs and the solutions then what can be done? The question is really a complex one. It is easier to formulate an answer to this question if we address each premise of the question. First, how do teachers approach motivation? Second, how do teachers talk to students about motivation? How do the answers for these two questions contribute to an understanding of how to engage students in their own learning? Whose solution is it? (Is finding a solution the same as being given one?) And, finally, does this change in "class side manners" work?

How do teachers approach motivation?

One can only wonder where teachers get their motivation to motivate students in the absence of any systematic training on the topic. Apparently adolescent experiences are very formative and contribute to lasting impressions. So, as Schuman and Scott (1989) point out, we would expect people to recall more of their motivational experiences as "significant" when they were adolescents and young adults ---years that coincide with teacher training and the age groups in our college classrooms.

College teachers, as a rule, probably were achievers or "learning oriented." Incidental to this experience was the belief that learning is derived from cognitive motivation. What could seem more natural for a college teacher then to practice what seemed to work for him/her. The result in the classroom is that learning oriented students respond in kind while the performance oriented student mistrusts the teacher's efforts. In this latter context most of the teacher's efforts will be misinterpreted by the student.

The next step in reciprocal perspectives is concern. The more the teacher tries to show genuine concern to the student, to want to help, the more the student responds with depression and beliefs that the teacher is "obsessed." And so, we gain glimpses into the reciprocal perspectives of teachers and students in their attempts to help and be helped.

Convincing learning oriented students to improve their self-regulated learning is fairly easy. However, the performance oriented students may actually want to avoid such feedback from teachers. While the teachers think of their advice to performance oriented students as "help" these students hear it a reminder of their stupidity and feel humiliated by teacher attempts to get them to regulate. In this context, the learning oriented students perceive the opportunities for self-regulation differently. For the learning oriented students the motivation is cognitive and positive. It is cognitive because students engage in thinking to solve their problems. It is positive because students learning is an opportunity to bring about desired change. For the performance oriented students the

"opportunity" is perceived as negative and affective, as we have established. Performance oriented students are threatened by unpleasant thoughts that they lack ability. Their behavior is negative because they focus on deficiencies and limitations. The performance oriented students are scared that trying to learn and failing again is more than they can handle.

A simple request by the teacher, such as, "Now surely, you can find time to do at least one-half hour of work on this topic?" In the teacher's perspective this is a strict minimum, but from the student's perspective it is an unrealistic goal. The student feels inadequate, unable and now, has the additional problem of what to do about "the teacher." The usual result, the negative and affective motivation from the performance oriented student, is what Covington and Omelich (1979) have termed "false effort."

> ...while teachers often reward achievement through effort and punish not trying, for many students expending effort when risking failure poses a threat. In effect, effort can become a double-edged sword for many students. The net result is that they must thread their way between the threatening extremes of high effort and no effort at all. On the one hand, they must exert some effort to avoid teacher punishment, but not so much as to risk public shame should they try hard and fail. We believe that excuses are the students' main ally in maintaining this precarious balance. A popular tactic is to try hard, but to provide oneself with excuses to explain why trying did not help, thereby avoiding inferences to low ability by redirecting the causes of failure to external factors. It is also common for students to invent plausible reasons for having not tried, thus forestalling teacher displeasure. (Covington and Omelich, 1979; p.170)

Teachers all too often rely on the "tell and sell" approach to motivation. They do comprehension monitoring to motivate students to think, feel and do things differently. But, in the process, teachers also establish for students how, when and where to study. The student has to see such procedural and conditional knowledge from the teacher's perspective and not from his/her own. Apparently how change is presented influences what the person, whose behaviour is to be changed, will think and feel about self-regulation. How change is introduced by the person seeking the change (i.e. self- versus other-directed) is explained by regulated learning behaviours that are *established* versus *elicited*.

Working "for" versus working "with" students with learning problems.

There is a very strong phenomenological bias in cognitive behaviorism depending on whether we are addressing motivation from the actor's (i.e. self) or the observer's (i.e. others) point of view for the action. The fundamental difference is one of "establishing"

versus "eliciting" a response (McCombs,1991). **Establishing** a response means to train behaviours into people by having them learn to associate the process one uses to attain a goal. Establishing responses is based on repetitions and the person may remain passive. **Eliciting** a response means to draw out a response from the person through their involvement in the process. The process for eliciting behaviours requires the active involvement of the person. Progressing to a higher or consequent level, using elicited responses, requires personal involvement of the learner. Established behaviours are usually other-directed while elicited behaviours are self-directed. The underlying difference between established and elicited approaches to motivating self-regulation is the difference between teachers who work "for" rather than "with" students.

Teachers cannot establish student self-regulated learning. If the behaviour is to be self-regulated, by definition, it cannot be established but must be elicited from the person. One way teachers may elicit a behaviour is to create situations in which certain behaviours are more likely than others, to wait for an approximate behaviour to be manifested which can be shaped into the desired response. The difference between an established and an elicited response is one of observing the process (because someone else put it into place) versus participating in the process (because the person brought up the topic in a perspective s/he understands).

While good interpersonal contexts between teachers and students exist it remains that increasing motivation in the performance oriented students requires teacher initiative and support. The teacher must elicit, through a series of questions, how the student perceives effort, self-efficacy, and his/her own beliefs for learning. The purpose of the dialogue is to elicit from the student greater understanding of his/her own motivations to learn and develop. Teacher questions are meant to bring the student to reflect, to question and to examine how one chooses to involve oneself, to make personal investments, and, in brief, to take charge of one's life. A student who needs help, whether s/he initiates the behaviour or not, can be encouraged by the teacher to engage in the first step: Reflected awareness by focusing on self-diagnosis. The student may come by asking for help, or the teacher may call the student in to engage students about their attitude, thinking and behaviour. How teachers talk to students about their motivations and how they engage students in reflected awareness then becomes the critical issue.

How do teachers talk to students about motivation?

It may be, as an extension of the research conducted by Worchel and Andreoli (1978), that by focusing on what the student did not do (negative aspects of behaviour) rather than on what the student could do, both students and teachers have difficulty in seeing the uniqueness of the individual. The process seems to focus on these common attributes

known to be generally successful strategies to remove the barriers to success. Such behaviour occurs at a time when the student may be very self-conscious and convinced of his/her uniqueness according to David Elkind. And, as Freeman and Schopen (1997) point out in their study of "troubled youth," cognitive evolution "...is a process of equilibrium and disequilibrium, which is marked by explosions of egocentricity (p.37).." As we have seen, the performance oriented student is already disposed to think along these lines. The solution appears to be not to appeal to these very processes. What s/he thinks and feels nourish these behaviours. Rather teachers should address the issue of what the student does. The approach is based on the belief that if teachers can get people to change behaviours then they will think and feel differently about those changes. Although there is mixed evidence in the literature, there is enough support to suppose that changes in behaviours can produce changes in attitudes. Getting people to act, even if they feel bad about it, seems to lead afterwards to important changes in thinking and attitudes.

In such a context teachers must be careful of their own behaviours. First, teachers should try to identify behaviours that the student could improve upon. College teachers spend so much time correcting students' mistakes in content knowledge that it seems a natural carry over to do the same with students procedural and conditional learning. Angelo (1991) has provided "Ten Easy Pieces" to help college teachers understand (in a positive way) how to arrive at some practical Classroom Assessment Techniques.

Second, teachers need to remember that the timing of feedback is an important source of motivation. Asking students to focus on mistakes is most effective immediately after the performance. Asking students to consider strategies and new study skills are better suited when the students are preparing for an upcoming performance. This is but one of the many excellent practical suggestions that have been discussed by Keller (1983) and which are often summarized in popular educational psychology textbooks (see Good and Brophy, 1995; pages 400-401 for example).

Finally, there is the whole issue of the way teachers unintentionally communicate their expectations for change. "The messenger may be the message (Geis,1986)!" Lowman (1994) has very well described how college teachers develop and polish behaviours to produce their routines and their consequences on students. The essence of his comments is reflected in his question, "Who are the excellent students?" College teachers are well aware, as he states that "difficulties most often arise with the undermotivated, the underachieving, and the underprepared (p.2)."

> Students with a strong *learning orientation* see classes as a place to satisfy their curiosity about the subject and to meet some of their own objectives, which they usually have for any college course but especially for their electives. Learning-oriented students are usually independent and motivated

> more from within. By contrast students with a strong *grading orientation* think of classes in terms of requirements ("Do we have to write a paper?"), the instructor's externally imposed expectations ("What is it you want from us?"), and the necessity of getting degree credits out of the way. For grading-oriented students, the class is an obstacle to be overcome with the least possible cost in terms of time, energy, and the almighty grade-point average (p.3). ...
>
> Instructors can unintentionally encourage a grading orientation in a number of ways. ...elaborate schemes punishing late exams and papers ... Such announcements clearly reveal our expectation that students are working primarily for the grade they receive and that we are unable to get them to turn work in on time without the use of external and frequently aversive contingencies. Many instructors report that making no mention of makeup exams or late papers on the syllabus or in class --- but being very accommodating to individual students who ask for makeups or extensions --- is an alternative approach that reduces late work and our external, controlling role with students (p.3)"

Consequently, the availability, enthusiasm, competence etc. of the college teacher must all be subjugated to the issue of control and responsibility. As long as college students' behaviour doesn't engage them to see for themselves and by themselves, the student will not move but rather be moved to change.

How do teachers engage students to think about what they are doing in college?

A case study remains one of the single best approaches to document and explain the issues being discussed. We present the following vignette so that college teachers can identify with the reality being portrayed, learn about the issue to discuss, how to engage the student, and how to encourage (realistically) students to consider change.

J.S. wrote this response as part of her essay on "academic stress."

> So, there he is, in his math class, trying to listen to what the teacher says when suddenly he realizes the second hour of the class is scheduled for a test. Marc is really stressed: he feels his heart beat just went up again, he is sweating a lot and he is very tensed. Marc is not sure if he is well prepared for this test. He is tired and he did not have the time to review yesterday because he had a party that he did not want to miss at all. Also, it is the first time he has that teacher for a math class. Marc has no clues about the duration, the

form and the difficulty of the test.

Here, follows nine different coping strategies Marc could use to deal with this academic stressful situation.

1) Marc decides that his teacher will probably give a make-up test if anyone gets a poor grade on this test. After all, the test is only worth 10% of the semester and no kind teacher would give a poor grade to his students because his goal is their academic success.

We see the egocentric bias described by Elkind (Marc does poorly and the teacher will have to do something for him); we see the performance orientation; the lack of self-regulated behaviour ("he had a party he did not want to miss at all"); the reliance on others to solve a problem related to poor choices (attending a party instead of studying, not noting down the test date); and, the false effort (taking an announced test which comes as a "surprise").

The first step is to get the student to reflect on self-diagnosis. Did Marc know about the test? If not, and assuming it was in the course outline or announced ahead of time in class, how did Marc not know? If the student answers appear to be on the right path than the teacher continues to elicit from the student awareness about agendas and planning, time management etc. If Marc did not know about the test, engage him to learn about how to behave to avoid this problem again. The "trick" is to get the student to make statements about behaviours that have led up to the problem and what behaviours to change to correct the problem and avoid its re-occurrence.

Now, in our case, the young woman who wrote this essay answer was asked about her own belief system. "Have you ever had happen to you what happened to Marc?" "In the best or worst of scenarios what happens to Marc?" "What do you suggest Marc do?" Steer the student away from vague (tell him to study) answers to more practical statements. Statements that describe actions and not intentions. Teacher answers like "Will that be enough?," "What else could be done?" elicit responses. Keep hammering away for answers that describe behaviours and not how the student feels or thinks "things" should be done. At the end of a brief session (about 15 minutes) ask the student to summarize the major points that have been agreed upon that would bring changes in the behaviour. Ask the student to make a public (voice it out loud to the teacher) statement about the perceived difficulty of doing these tasks. Discuss the obstacles one by one and agree on behaviours. Get the student to make a verbal commitment to try and then to report back.

In our example, it was evident that J.S. and Marc shared much in common. We agreed that J.S. would look up information about test dates in the course outline, keep her eye open for

other information which could be useful, note it down in her agenda, plan a study schedule (we talked about just how much she could study at one sitting), and then to come back to discuss the results. It became clear, of her admission, that she too wanted to do better on tests. It seemed to her that what she found on her tests were most often a "surprise." It seems she couldn't foresee that the test questions were to a good degree predictable. We chose to direct the questions to what she could do instead of what she had been doing because what was needed seemed more important and constructive than what was in need of "fixing."

Asking open-ended questions (questions that cannot be answered with "yes," or "no" answers) and the whole process of scaffolding questions is neatly presented in a work by Hyman on Strategic Questioning (1979). Try to avoid asking the "why" type questions. The student usually feels defensive since it implies the existence of an accessible motive which can be articulated The basic structure of academic advising for increasing motivation is as follows:

1. Self-Diagnosis
   1.1 Ask questions about student's behaviours (homework, assignments, attending class, taking and revising notes, asking for help, following up on suggestions).
   1.2 How does the student see the relationship between the grades s/he gets and the time (not effort!) on task.
   1.3 How does the student deal with boredom, anxiety, guilt?
   1.4 How does the student deal with energy? (Feels sleepy and tired doing homework but recuperates rather well when distracted!)

2. Check out the student's motivation
   2.1 How was the transition from high school to Cégep? (Most will tell you they did okay in high school but have found it difficult to get organized or to adjust to Cégep.)
   2.2 How does the student deal with requests for work (procrastination)?
   2.3 How does the student deal with distractions and self-reinforcements?
   2.4 Does the student get enjoyment from thinking?
   2.5 What are the levels of attention and concentration? (Does the student fall asleep when reading assigned work?)
   2.6 What level of control does the student have over his/her life? Some students just seem to live in a world filled with accidents, mishaps, partners coming and going in their lives, family and personal problems etc.

For all but step 2.6 there are direct academic advising materials available. Many colleges have Learning Skills Programs, materials in the library, or even resource persons. The traditional fare of planning and managing time, structure, self-reinforcements and positive

self-talk etc. abound. Students in step 2.6 should be encouraged to consult the personnel in the Counselling Office. In Appendix 1 you will find the handout, "The Four Steps for Working Smarter and Not Harder." It is intended to help teachers elicit, and students to talk about, problem behaviours.

Although there is no research to support this affirmation, we suspect that communication in the context just described ("class side manners") makes teachers' intentions clearer because they are anchored in students' behaviours; the role of the student addresses the relationship to the teacher as a resource person; neither party is engaged in a win-lose strategy; biases in thinking, as reflected in the "we"/"they" kinds of statements, are avoided (superiority and control issues); and, both student and teacher establish interdependence for orchestrating goals and measuring progress.

Do "Class-Side Manners" Work?

Class side manners (Wilson,1990) was introduced into the literature to help teachers understand how to involve themselves with students. The essence of the approach resides in understanding that greater participation leads to self-regulated behaviour. Wilson (1990) makes it clear that people are entitled to their feelings. They are not basis of productive discussions about how to think differently. What is important in class side manners is to lead parties concerned to attend to the assumptions and thinking they have about their behaviours and the outcomes. The advice Wilson gives for helping to develop faculty is equally applicable to teachers who would work with students:

> A final word on "class-side manner." It may sound as though I'm saying you must be knowledgeable about teaching and teaching evaluation and be a persuasive and charismatic person to succeed as a faculty developer. This is not true. Knowing about teaching and the evaluation of teaching helps developers feel more comfortable in their jobs. At present, we do not know how to persuade faculty to change their teaching. What we can do is to work with those faculty who want to change and to help them improve their effectiveness (p.274).

While the teacher may listen and empathize with other dimensions contributing to academic performances, it remains that these other problems are best referred for counselling. We can realistically expect college teachers to engage in academic advising not counselling.

As to the issue of whether class side manners work, the answer is a definite yes. Audy, Ruph and Richard (1993) have adapted, by working through teachers, teaching strategies to increase learning motivation. Their major contribution resides in explaining to high school

teachers how to implement change, how to manage change with "at risk" high school students.

> En resituant le lieu de contrôle à l'intérieur de la tête de l'étudiant, le médiateur lui redonne l'emprise sur son propre processus de réflexion, en lui permettant de développer un langage interne pour le faire. En effet, c'est par le biais de ce langage interne que l'étudiant pourra s'autoguider en situation de résolution de problèmes, c'est-à-dire utiliser des processus de gestion métacognitive (p.30). [In restoring the locus of control within the student's mind, the mediator gives him back control over the process of thinking, by permitting him to develop the tools with which to do so. Basically, it is through these tools that the student will be able to guide himself when confronted with problems, that is to engage in metacognitive strategies.]

Basically the steps they describe to prevent high school abandon and failures is elegantly simple:

> Step 1: Make contact with the student. Define the topic and elicit student self-awareness about the problem.
>
> Step 2: Elicit from the student awareness of strategies to be used. Encourage the student to think through the processes to define and use a strategy.
>
> Step 3: Encourage the student to formulate the problem in objective (behavioral) terms and to imagine how outcomes will or will not happen.
>
> Step 4: Elicit from the student what has been learned, how it applies to the problem, what s/he will do to transform the problem into something manageable.

Audy et al. (1993) report that since these principles were adopted in the Abitibi-Temiscaminque high school districts, the failure and abandon rates have very sharply declined. Also, there appears to be an effect on preventing new cases from developing. They claim these results are from 1,700 teachers in forty different school boards using these methods in Québec high schools. The program is so popular that it has been extended to elementary schools. Also, France and Belgium have shown interest in experimenting with the approach.

The main point of these steps is that students discover opportunity. The student can be helped to see for himself/herself that there now exists an opportunity to change, a person interested and able to help bring about this change, and that significant goals can be achieved once they are divided into sub-goals. Confidence and knowledge about the process of self-

regulation are scaffolded by the student, under the teacher's supervision. The consequence is that the student feels more confident and more able. And this is how teachers may increase motivation of performance oriented students.

Mediated motivation

The following quotations were made in the context of teacher motivations to teach. However, for our purposes, what is suggested for teachers' motivations is also sound advice to teachers for motivating their students!

> "The people who live and work within the structures need to have more say in the creation or modification of those structures, and the assessment of performance --the measuring of a teacher (student) against the structure--- needs to be more self-directed (Deci and Ryan, 1982; p.33) (My added emphasis in parentheses.)."

Helping students often leads teachers to guide them through the decision making process. Such statements as: "Don't you think that it would be better if you did such-and-such first?" We must learn to present information, encourage students to make choices, and then to have students re-examine the consequences of their choices.

> "The goal is to instill and support a self-responsibility in which teachers (students) would be doing well out of their own desire to be competent. To do this, administrators (teachers) need to provide positive feedback for work well done, they need to involve faculty members (students) in goal setting and self-evaluation, to display the type of supportive attitude that encourages teachers (students) to want to (learn) teach well, and to set an example of high-quality, self-directed, responsible, and relaxed performance of their own functions (Deci and Ryan, 1982; p.33)(My additions appear in parentheses.)."

> "But when their teaching is controlled, when they feel pressured, hurried, and evaluated in their teaching, they gradually lose their intrinsic motivation to teach, just as students lose their intrinsic motivation to learn when their learning is controlled, pressured, and evaluated (Ibid. pp.33-34)."

> "If conditions are created that bolster teachers' feelings of competence and self-determination, teachers' motivation to teach will take care of itself (Ibid. p.34)."

It is our feeling that as teachers mediate student learning, students' feelings of competence and self-determination will occur. Both student and teacher motivations and commitment to learning/teaching will take care of themselves.

Conclusion

Make no mistake about this: what college teachers are accountable for is not to propagate student inabilities and incompetencies. We don't know just how much progress students can and will make. They may enter with ability levels equivalent to performances at 30% and exit with performances at 55%. This is quite an achievement. Nonetheless the student fails. Not all progress can be measured by the arbitrary passing grade of 60%. College teachers can work to improve student performances but it is unreasonable to expect that all these student improvements will necessarily translate into a grade of 60%, or more.

Students may also enter with a variety of problems: inadequate preparation, ineffective learning strategies, motivational problems, emotional/familial problems, substance abuse, low general ability, learning disabilities etc. This paper is a preliminary version of a taxonomy for "Developing an Integrated System of Motivational Strategies for Cégep Teachers and the Underlying Continuing Motivation of Their Students." We hope it will meet with the needs of teachers' expectations for a practical, efficient and realistic tool with which they may mediate student needs to become better self-regulated learners.

We have argued that challenging students to find within themselves the energy to improve and to continue to improve by themselves is not only to assist them by teaching self-regulated learning, it is to offer them the tools to become an educated and responsible adult/citizen. And that is the responsibility of college teachers.

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Those persons interested in additional proven resources to help them develop materials in step 1 of "The Four Steps for Working Smarter and Nor Harder" (Appendix 1) will find these most suited to just about any discipline.

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Appendix 1:
The Four Steps for Working Smarter and Not Harder.

STEP 1: Identify and define the task to be worked on

1. Attending classes
2. Taking and revising class notes
3. Preparing for and writing tests
4. Preparing for and writing assignments
5. Reading textbooks
   - 5.1 Attention, concentration and memory:
     - 5.11 Distractions and self-reinforcements
     - 5.12 Study time and place
     - 5.13 Procrastination effects
   - 5.2 What to underline, how to prepare summaries etc. (SQ4R method)
6. Library, research, or term papers.
7. Others (Discuss with friends, the teacher, or counsellor)

STEP 2: Choose an appropriate strategy to do the task. (The following descriptions have been adapted to item 5 "Reading textbooks," in Step 1 above.)

1. Cognitive Strategies
   - 1.1 Reading and following directions (Can you summarize the directions?)
   - 1.2 Repetition
     - 1.21 Passive types: highlight, underline, circle; recopy, take word-by-word notes; lists of words, key ideas etc.
     - 1.22 Active types: Repeat the main points, a small part at a time, of what you have just read or done.
   - 1.3 Elaboration:
     - 1.31 Passive types: Make special marks to indicate something you don't understand, especially after re-reading or trying it after several times. (For example, ! after one reading and !!! after three readings.) Ask questions about what it is you don't understand.
     - 1.32 Active types: Summarize in your own words what you read or have been doing. Try to find your own example related to the topic. How might this help you understand a similar problem?
   - 1.4 Organization
     - 1.41 Passive types: Copy an outline in the margins of the book or in your notes. Count, compare or classify things.

1.42 Active types: Make your own outline and ask why the item is listed here rather than somewhere else. Prepare a table, chart, graph etc. to see sequences, trends, patterns, relationships of parts to whole etc.

1.5 Generalization

1.51 Passive types: Think about why other students have not done this work. Keep thinking to yourself that all this work is just wasted effort. In other words be sure to be totally down on yourself, the "system," and don't forget to blame others for the troubles you have!

1.52 Active types: How have others managed to get through this task? What do they know that I have not yet learned? If other people have done these tasks there must be a few who went through what I'm going through. Who would know the answers to these questions?

1.6 Discrimination How are the requirements of this task different from other tasks that appear similar. In other words, what worked for me before may not work for me again because the task is just a little bit different. Can I see this "difference?" Can you think of an example of what not to do?

2. Resource Management Strategies

2.1 Resource availability

2.11 What skills do I currently have to do the task?

2.12 Do I have the directions, books, paper, pencils etc. I will need to do the task?

2.13 Are there others that can help me understand, plan or prepare for the task?

2.2 Time management

2.21 When will I do the task? Do I know how to prepare and use an agenda? Have I made realistic short term and long term plans (what if I can't do the work as planned and when planned. Do I have a backup plan? Will I have time to fall back on another plan if my first plan does not work? Will there still be resources (friends, teachers, books) available for me to use or call upon?)

2.22 Have I tried to break up the task into manageable sub-goals. Planning to work in several short sessions is usually much more effective than trying to do all the work at once.

2.3 Environmental controls

2.31 Do I have a regular place of study?

2.32 Does the place where I study support or distract me from studying?

2.33 Are there resources for me to do my work or do I have to continually walk around to get something "I forgot"!

2.4 Help-seeking behaviours

2.41 How do I get help from friends?

2.42 How do I ask for help?

2.43 Do I give people whom I ask for help the time to help me? Or, am I always in a "rush"?

2.44 Have I tried small study groups? Peer tutoring? Contacting the teacher?

3. Affective Strategies

3.1 Positive self-talk: Intelligence can be taught! Many people learn to be smart! Focus on what you can do to change from what you don't know to what you will know. Try to stick to changing rather than on "how well you did or did not do!"

3.2 Self-reinforcement: Do you plan your activities so that you reward yourself for having spend time at work, getting the work done etc.? Do you find that you just give up and feel miserable for "wasting your time"?

3.3 Control: anxiety, impulse, stress management, persistence and "time-on-task".

4. Metacognitive Strategies:

4.1 Can you foresee the tasks about to be asked of you?

4.2 Can you determine the difference between what skills you now have and the skills you will need to do the task?

4.3 Can you decide which strategy to use? Do you know how to modify the strategy to fit the task?

STEP 3: Executive and Managerial Strategies

Try the behaviours. Remember to give yourself the time to do them, and especially the permission to fail. It is the rare person who learns the first time to do things the right way. Most of us have to keep plugging away at it.

STEP 4: Evaluate progress and not results!

What works for you and how! Start the process all over with STEP 1.